

## RESPONSE OF RUBBER TREES (*HEVEA BRASILIENSIS* MUELL. ARG., CLONE RRII 105) TO LOW FREQUENCY TAPPING (LFT) SYSTEMS

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Yield of *Hevea brasiliensis* Muell. Arg. (clone RRII 105) over a period of three years under third daily (d/3), fourth daily (d/4) and weekly (d/7) frequencies of tapping of half spiral cuts with different frequencies of ethephon application (stimulation) were compared with that of unstimulated trees under alternate daily tapping (d/2). Tapping under d/2 frequency was injurious and resulted in yield depression in the third year. Tapping under d/3 frequency with stimulation resulted in high yield of 7382 kg/ha for three years. Comparable yield could be achieved under d/4 frequency of tapping with appropriate stimulation. There was yield depression under weekly tapping in the first two years. In the third year, yield responses under weekly tapping were comparable to those of d/3 and d/4 frequencies of tapping. The low yield under d/7 frequency of tapping in the newly opened trees can be overcome by increased frequency of stimulation. Under d/7 frequency of tapping, maximum response to stimulation was observed when it was done between 48 - 72 h before tapping. Thus the low frequency tapping systems including weekly tapping can be successfully adopted in India without compromising production.

Key words: Ethephon, Exploitation, *Hevea brasiliensis*, Low frequency tapping, Stimulation, Yield.

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### INTRODUCTION

*Hevea brasiliensis* Muell. Arg. (Para rubber) is the most important commercial source of natural rubber (NR). Land productivity of rubber plantation is governed by the genotype of the tree, stand per hectare, intensity of exploitation and many other factors. *Hevea* clones are generally categorized into slow, medium and fast metabolisers (Gohet *et al.*, 1991). Frequency of tapping recommended for medium metabolizing clones like GT 1, and RRIM 600 is alternate daily (Vijayakumar *et al.*, 2001). On account of high incidence of tapping panel dryness (TPD), the frequency of tapping recommended for high yielding fast metabolizing clones like RRII 105, PB 235 and PB 260 is third daily

(d/3) (Gohet *et al.*, 1991; Sulochanamma *et al.*, 1993; Vijayakumar *et al.*, 2001).

Gohet *et al.* (1991) reported that productivity of high yielding clones can be further enhanced without any adverse effect by judicious yield stimulation under d/3 frequency of tapping. Under such tapping system, moderate stimulation from the opening onwards does not cause any harmful effect even in the long run. However, for clone RRII 105, the most popular one in India, only limited information is available on stimulation requirement under d/3 frequency of tapping. From block level experiments in clone RRII 105 in different estates, Vijayakumar *et al.* (2001) reported significant and sustainable yield increase from third daily tapping by limited number of stimulations.